

In the Specification

Applicant presents replacement paragraphs below indicating the changes with insertions and deletions indicated by underlining and strikeouts, respectively.

On page 9, replace the paragraph at lines 17-18 with the following:

A1

FIG. 6 is Fig. 6A and Fig. 6B together comprise a schematic diagram of a cable driver in accordance with the present invention;

On page 12, replace the paragraphs from lines 4-25 with the following:

A2

A cable driver for the Fast Ethernet and Ethernet Driver of FIG. 5 is shown in the schematic of Figs. 6A and 6B ~~FIG. 6~~. The cable driver includes two current feedback amplifiers with a gain of -2. In Fast Ethernet mode, the logic input, Enable, turns off the Ethernet, or 10BaseT, output currents. The amplifier pamp2 controls the output voltages, vp and vn, and $V(vp, vn) = V(txp, txn) * 2$.

The drivers in accordance with the present invention utilise a new method to generate the bridge currents. In Figs. 6A and 6B ~~FIG. 6~~, the 10BaseT current supplied to the line is from the outputs, Ioutp and Ioutn, of the amplifier pamp4, (see FIG. 8 for details). The currents Ioutp and Ioutn are ratios of the amplifier currents flowing in r3 and r4. In the case of pamp4, mp2 is 10 times the size of mp20, so the current in mp20 is 10 times the current in mp2. Ethernet driver circuits are conventionally biased from a fixed bandgap voltage, Vref, and an external resistor, Rext.

$I_{bias} = V_{ref} / R_{ext}$, a fixed current,

$V_{inp} = R_{inp} * I_{bias}$

$I_{r1} = V_{inp} / r1 = R_{inp} * I_{bias} / r1$, a fixed current, since the ratio $R_{inp} / r1$ is constant

On page 13, replace the paragraph from lines 11-16 to the following:

A3

FIG. 7 is an equivalent circuit of the differential current feedback amplifier, pamp2, of FIG. 6A. The amplifier signals are referenced to half the power supply voltage, $V_{mid} = 1.65V$. With two inputs and two outputs, the amplifier responds to the current input at inp and inn.

On page 14, replace the paragraph on lines 6-11 with the following:

A4

The switched current feedback amplifier pamp4 of FIG. 6A (illustrated in FIG. 8) is similar to the FIG. 7 amplifier except for the addition of a logic control, Enable, and the current outputs Ioutn and Ioutp. The logic input, Enable, switches the output of the amplifier.
